CLAIMS:

1. Semi-conductor device comprising:

- a substrate;
- a first semi-conducting region of a first conductive type adjacent to the substrate and provided with a first contact part arranged on the side of the device situated opposite the substrate;
- a second semi-conducting region of a second, opposite conductive type, the centre line of which extends in the form of a polygon, which region has a first junction to the first semi-conducting region and which is provided with a second contact part arranged on the side of the device situated opposite the substrate;
- a third semi-conducting region of the same conductive type as the first semi-conducting region, the centre line of which extends in the form of a polygon, which region has a first junction to the second semi-conducting region and which is provided with a third contact part arranged on the side of the device situated opposite the substrate.

2. Device as claimed in claim 1, wherein:

- the first region is a collector of the N type;
- the second region is a base of the P type;
- the third region is an emitter of the N type.

3. Device as claimed in claim 1 and/or 2, wherein all contact parts can be connected to the side of the device remote from the substrate.

4. Device as claimed in claim 1, wherein the polygon is a hexagon.

5. Device as claimed in one or more of the foregoing claims, wherein the collector contact is connected to the collector via a buried N-region with low resistance which extends both laterally and vertically, wherein the lateral part is enclosed by the collector.

6. Device as claimed in one or more of the foregoing claims, wherein the base is arranged vertically relative to the collector.

7. Device as claimed in one or more of the foregoing claims, wherein the base contact makes contact with the base via a fourth and a fifth region consisting of semi-conducting material.

8. Device as claimed in one or more of the foregoing claims, wherein the emitter is arranged vertically relative to the base and which makes contact with the other side of the base relative to the collector.

9. Device as claimed in one or more of the foregoing claims, wherein the emitter is electrically insulated from the semi-conductor regions which connect the base to the base contact.

10. Device as claimed in one or more of the foregoing claims, wherein in the first region, and completely enclosed hereby, a sixth region, the centre line of which extends in the form of a polygon, is arranged substantially vertically under the second region.

11. Device as claimed in one or more of the foregoing claims, wherein a plurality of assemblies of second and third regions lying mutually adjacently are arranged on one or more first regions in a pattern wherein the space between the second and third regions is minimized.

12. Device as claimed in claim 10, wherein one or more buried semi-conductor N-regions for connecting one or more collectors to one or more collector contacts are mutually connected.

13. Method for forming a semi-conductor device, comprising:

- a substrate;
- a first semi-conducting region of a first conductive type adjacent to the substrate and provided with a first contact part arranged on the side of the device situated opposite the substrate;

- a second semi-conducting region of a second, opposit conductive type, the centre line of which extends in the form of a polygon, which region has a first junction to the first semi-conducting region and which is provided with a second contact part arranged on the side of the device situated opposite the substrate;
- a third semi-conducting region of the same conductive type as the first semi-conducting region, the centre line of which extends in the form of a polygon, which region has a first junction to the second semi-conducting region and which is provided with a third contact part arranged on the side of the device situated opposite the substrate.

14. Method for producing a semi-conductor device as claimed in claim 11, comprising the following steps of:

- doping a lateral N-region in the substrate,
- applying to the substrate an epitaxial N-layer which forms the first region,
- applying an oxide layer over the epitaxial layer,
- applying a vertical N-region in the first region integrally with the lateral N-region in the substrate,
- applying a fourth region as a transition region between the base and the base contact,
- etching an emitter opening in the P-region,
- diffusing a fifth region from the fourth region,
- implanting the second region and a sixth region, the centre line of which extends in the form of a polygon,
- forming insulation material against the fourth and fifth regions in order to insulate said regions from the third region,
- forming the third region by means of deposition and doping thereof with N-type dopant,
- diffusing the emitter from the doped polysilicon.